

Claim Rejections

Claims 1, 5-7 and 11-13 are rejected under 35 U.S.C. §102(b) as being anticipated by Breed (U.S. Patent Application Publication No. 2001/0002451). The Examiner states that Breed discloses an apparatus for sensing a potential rollover of a vehicle comprising an inertial reference unit including three accelerometers and three gyroscopes for measuring acceleration and rotation about the vehicle's axis, a central control module and vehicle control devices for controlling steering, braking and throttle.

The Examiner appears to consider the subject matter of the rejected claims to be entitled only to the benefit of the filing date of the instant application, i.e., not entitled to the benefit of the filing date of any of the related applications from which priority under 35 U.S.C. §120 is claimed. Specifically, the Examiner takes a position that the passages of the '317 application cited in the amendment filed November 7, 2005 do not support controlling the steering of a vehicle to prevent rollover, drawing a distinction between a rollover and a collision between two vehicles (controlling steering to prevent a collision is admittedly supported).

The Examiner's rejection is respectfully traversed on the grounds that the subject matter of claims 1, 5-7 and 11-13 is believed to be disclosed in the '317 application so that they should be entitled to the benefit of the filing date of the '317 application pursuant to 35 U.S.C. §120. Since the filing date of the '317 application precedes the filing date of the application which published as Breed (i.e., U.S. patent application Ser. No. 09/753,186, filed January 2, 2001), Breed should not be available as prior art.

The '317 application describes a system referred to as the Road to Zero Fatalities™ or R4ZF™ system which relates to both collision avoidance and accident avoidance (col. 1, lines 24-30, "This invention is in the fields of automobile safety, intelligent highway safety systems, *accident avoidance*, accident elimination, *collision avoidance*, blind spot detection, anticipatory sensing, automatic vehicle control, intelligent cruise control, vehicle navigation and other automobile, truck and train safety, navigation and control related fields."—emphasis added). A collision is often defined as a type of crash involving a vehicle and another object. An accident is broader than a collision and includes collisions as

well as situations where a vehicle runs off a road (see col. 50, lines 25-28, "to prevent *accidents* caused by a vehicle leaving the road surface and impacting a roadside obstacle requires only an accurate knowledge of the position of the vehicle and the road boundaries. To prevent *collisions* with other vehicles requires that the position of all nearby automobiles must be updated continuously. But just knowing the position of a threatening vehicle is insufficient."-emphasis added) and a vehicle rolls over (see col. 62, lines 20-24, "It should be obvious from the above discussion that rollover accidents should be effectively eliminated by the RtZF™ system. In the rare case where one does occur, the RtZF™ system has the capability to sense that event since the location and orientation of the vehicle is known.").

At col. 62, lines 20-24, it is explicitly stated that rollover accidents should be eliminated by the RtZF™ system. The RtZF™ system encompasses the use of control algorithms to develop coordinated braking, acceleration and steering control signals (col. 38, lines 59-64, "In a preferred embodiment, neural fuzzy control algorithms are used to develop coordinated braking, acceleration and steering control signals to control individual vehicles in an optimal manner to avoid or minimize the effects of potential collisions.") and a steering servo 72 (part of the implementation of the RtZF™ product, see col. 71, lines 30-35, "Three servos are provided for controlling the vehicle during the later stages of implementation of the RtZF™ product and include the brake servo 70, the steering servo 72, and the throttle servo 74. The vehicle can be controlled using deterministic, fuzzy logic, neural network or, preferably, neural-fuzzy algorithms."). Although Col. 38, lines 59-64 mentions using the RTZF™ system to avoid potential collisions, it is the description and construction of the same system which is being referred to when mention is made subsequently of eliminating rollover accidents using the same system at col. 62, lines 20-24. Thus, since the system which prevents collisions includes control of steering of the vehicle, one skilled in the art would readily understand and appreciate that the system which prevents rollovers similarly includes control of steering of the vehicle.

Additional support for the aspect of controlling steering to prevent rollover accidents can be gleaned from col. 33, lines 33-40 wherein mention is made of a situation where a driver falls asleep or

attempts to drive off the roadway at high speed, such a situation being a prime cause of rollover accidents ("If, however, the operator falls asleep or for some other reason attempts to drive off the roadway at high speed, the system will detect that the vehicle is approaching an edge of the roadway and will either sound an alarm or prevent the vehicle from leaving the roadway when doing so would lead to an accident."). The system detects that the vehicle is approaching an edge of the roadway and will either sound an alarm or "prevent the vehicle from leaving the roadway". In light of mention in other parts of the specification of steering control being one manner to prevent accidents by preventing a vehicle from departing from a traffic lane (see the discussion above), one skilled in the art would certainly and unquestionably understand that the vehicle can be prevented from leaving the roadway through control of the steering and thereby preclude a rollover accident.

Yet more support for the disclosure of controlling steering to prevent rollover accidents is at col. 35, lines 47-52 ("In contrast to some prior art systems, with the RtZF™ system in accordance with the invention, especially when all vehicles are appropriately equipped, automatic braking of the vehicle should rarely be necessary and steering and throttle control should in most cases be sufficient to prevent accidents. In most cases, braking means the accident wasn't anticipated.) wherein a description of the use of the RtZF™ system states that steering and throttle control should in most cases be sufficient to prevent accidents (accidents including collisions, rollovers and the like).

In view of the foregoing, it is respectfully submitted that control of steering to prevent accidents in general which include collisions and rollovers is repeatedly described in the '317 application, and moreover that express mention is made of the use of the same detailed system for preventing collisions as for preventing rollovers. Therefore, the subject matter of rejected claims 1, 5-7 and 11-13 is adequately disclosed in the parent '317 application and thus should be entitled to the benefit of the filing date thereof.

Since the subject matter of the pending claims is entitled to the benefit of a filing date preceding that of Breed, Breed should not be available as prior art and accordingly, the Examiner's rejection of claims 1, 5-7 and 11-13 as being anticipated by Breed has been overcome and should be removed.

Conclusion

In view of the foregoing, it is respectfully submitted that the present application is now in condition for allowance.

If the Examiner should determine that minor changes to the claims to obviate informalities are necessary to place the application in condition for allowance, the Examiner is respectfully requested to contact the undersigned to discuss the same.

An early and favorable action on the merits upon entry and consideration of this amendment is earnestly solicited.

FOR THE APPLICANTS  
Respectfully submitted,

  
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